

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

SERIES C. JOURNAL OF MEETINGS

VOLUME 9.

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GENERAL MEETING

WEDNESDAY, 3RD MAY, 1944, at 3.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the General Meeting held on 5th April, 1944.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. The following additions have been made to the Library since the meeting on 5th April, 1944.

*Presented.*

Stokoe, W. J.: *The Caterpillars of the British Butterflies, including the eggs, chrysalids and food-plants.* Based upon "The Butterflies of the British Isles" by Richard South. London, 1944.

In addition, separates have been presented by Dr. B. P. Beirne, Mr. G. Fox-Wilson, Mr. H. Donisthorpe, and the U.S. Department of Agriculture.

5. Admission of Fellows.
6. Communications.

1. Sir Rickard Christophers, F.R.S., C.I.E., O.B.E.

Structure of the *Culex* egg and egg-raft in relation to function.

[Abstract.]

The egg-raft of *Culex* floats so lightly on the water that it can be blown about by the least puff of air, yet withstands almost any attempt to sink or upset it. Should it, by some violent action, be submerged it rapidly regains the surface and, if undamaged, not only floats again but does so correctly right side up as it was before submergence. This property of the egg-raft is dependent entirely on certain structural features of the egg and the arrangement of the eggs in the raft.

The individual eggs are heavier than water, but the raft is light and buoyant, not only because it is boat-shaped, but even more because the surface of the egg, due to the rather peculiarly constituted chorion, is markedly hydrophobic and so ensures an air-lock in all of the hundred or more tiny open spaces lying between the eggs. On a wetting fluid, such as weak spirit, the wet chorion allows fluid to enter these spaces and the raft sinks.

But mere buoyancy would not suffice to maintain the raft under all conditions in the upright position. This is achieved by the micropilar apparatus of the egg. The *Culex* egg is peculiar in having a remarkably large, highly ornamental and elaborate cup-shaped micropilar apparatus. This, however, is no mere ornamental addition, but has a most important function to perform. The general surface of the chorion is strongly hydrophobic. The micropilar cup, on the other hand, is powerfully hydrophyllic. Moreover, though the micropilar apparatus appears as a cup when dragged from the water, its striated outer portions are capable of considerable expansion and in its normal position in contact with the water surface the cup is spread out almost into a flat disc. So powerful is the grip of this delicate structure on the surface film that if the micropilar apparatus of a detached egg be touched with a wet needle the egg at once adheres and can be lifted bodily sticking out at right angles to the needle shaft. Since in the egg-raft the eggs lie in regular rows with their thicker cephalic end carrying the micropilar apparatus directed downwards, it follows that there are some hundred or more tiny sucker-like cups anchoring the lower surface of the raft to the surface film yet allowing the utmost freedom of translatory movement. However the egg raft may be displaced or submerged, this mechanism ensures that it will correctly orient itself.

Other structural features are described where structure and function are interestingly correlated.

## 2. Mr. R. L. E. Ford.

A new example of protective resemblance and mimicry.

[Abstract.]

The cocoons of a species of *Microgaster* resemble the new buds of *Pinus sylvestris*, upon which its host feeds. The cocoons of *Apanteles pinicola* Lyle, parasitic on the same host, also resemble the buds, but while the *Microgaster* is fairly abundant, the *Apanteles* is very scarce and its cocoons would appear to mimic those of the *Microgaster* (Hym. Brac.).

## 3. Dr. B. P. Uvarov, C.M.G.

Changes in wing pigmentation during the adult life of ACRIDIDAE  
(Orthoptera).

4. Communications and exhibits the titles of which have been received since the circulation of these agenda.

Fellows are particularly requested to bring suitable exhibits to the General Meetings even though it may not be possible to announce their intention to do so before the meeting.

Tea will be served in the Library after the meeting.

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PROCEEDINGS OF THE GENERAL MEETING HELD ON 5TH APRIL, 1944.

Dr. E. A. COCKAYNE, M.A., M.D., F.R.C.P., President, in the Chair.

Present, 46 Fellows and 1 Visitor.

The minutes of the meeting held on 1st March were confirmed and signed by the President.

The Secretary read the names of the following new candidates for election : D. J. Billes, C. B. Church, B. Lloyd, F. J. O'Rourke, and J. W. Whitworth.

The Secretary announced that the following had been elected Fellows of the Society : J. F. Bird, Redclyffe, Walton St. Mary, Clevedon, Somerset; and R. F. Bretherton, Merifield, Dean Court Road, Cumnor Hill, Oxford.

Mr. R. S. D. Balter, Mr. D. W. Mollison, and Mr. A. Musgrave signed the Obligation Book and were admitted Fellows.

Thanks were voted to donors of gifts to the Library since the last meeting.

The following papers were read in title :—

"Further studies on the metendosternite in Coleoptera." By R. A. Crowson.

"A preliminary revision of the genus *Mylothris* Huebner (1819) (Lep. PIERIDAE)." By G. Talbot.

"The development of the Malpighian tubules of *Blatta orientalis* (Orthoptera)." By H. Henson.

"The two strains of the rice weevil, *Calandra oryzae* (L.) (Col. CURCULIONIDAE)." By O. W. Richards.

"Studies on the chemistry of pigments in the Lepidoptera, with reference to their bearing on systematics." 3. "The red pigments of the PAPILIONIDAE." 4. "The classification of the PAPILIONIDAE." By E. B. Ford.

"The beetles of the Lamellicorn subfamily VALGINAE, with a synopsis of the genera and descriptions of some new species." By G. J. Arrow.

"Spolia Mentawiensia : Rhopalocera, LYCAENIDAE and RIODINIDAE." By N. D. Riley.

"On *Limenitis bredowii* Geyer (Lep. NYMPHALIDAE), with description of a new subspecies and revival of another. A study in geographical distribution." By G. D. Hale Carpenter.

Communications were made by Dr. A. D. Imms, F.R.S., and Dr. B. P. Uvarov, C.M.G., abstracts of which appeared on pp. 9-10. In addition, the Registrar read a humorous account of the behaviour of a *Mantis* on board one of H.M. ships in the Mediterranean.

N. D. RILEY, *Hon. Secretary.*



## NOTICES

## ADMISSION OF FELLOWS

Any Fellow who has not been formally admitted to the Society under Chapter XIV, Section 4 of the Bye-Laws and attends the meeting on 3rd May, 1944, is requested to inform the Registrar before 3.15 p.m. on that date.

THE GENERIC NAMES OF BRITISH INSECTS, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London, with the assistance of the Department of Entomology of the British Museum (Natural History):

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|---------|--|----------------|
| Part 1. | Recommendations relating to the publication of the committee's reports . . . . .                           | price 6d.      |
| Part 2. | The generic names of the British Rhopalocera with a check list of the species . . . . .                    | price 3s. 6d.  |
| Part 3. | The generic names of the British Odonata with a check list of the species . . . . .                        | price 3s. 6d.  |
| Part 4. | The generic names of the British Neuroptera, with a check list of the British species . . . . .            | price 3s. 6d.  |
| Part 5. | The generic names of the British Hymenoptera Aculeata, with a check list of the British species . . . . .  | price 15s. 0d. |
| Part 6. | The generic names of the British CARABIDAE, with a check list of the British species . . . . .             | price 10s. 0d. |
| Part 7. | The generic names of the British Hydradeephaga, with a check list of the British species . . . . .         | price 5s. 0d.  |
| Part 8. | The generic names of the British Hemiptera-Heteroptera, with a check list of the British species . . . . . | price 39s. 0d. |

STYLOPS, a Journal of Taxonomic Entomology.

1932-1935. Vols. 1-4 (all issued). Price £1 16s. 0d. each; to Fellows, £1 7s. 0d.

ABSTRACT OF PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1935. Nos. 1-6 (all issued). 3s. 0d.

HÜBNER: A BIBLIOGRAPHICAL AND SYSTEMATIC ACCOUNT OF THE ENTOMOLOGICAL WORKS OF JACOB HÜBNER AND THE SUPPLEMENTS THERETO. In 2 vols. By Francis Hemming.

Price Vol. 1. 605 pp. £1 15s. 0d.

„ Vol. 2. 275 pp. 15s. 0d.

The next Meeting will be held on 7th June, 1944, at 3.30 p.m.

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*Published by THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON and sold at its Rooms, 41, Queen's Gate, S.W.7, price 6d.*